Standard: CC 2.2.1.A.1 Represent and solve problems involving addition and

subtraction within 20.

Practice Standard:

#7 Look for and make use of structure.

What visual(s) will you use? Students will use unifix cubes of two different colors.

\*\*\*\*This activity would start out as an activity using visuals then transition into mental math with the follow-up game.

Activity

1. The teacher assigns a target number within 4-10 for the students to work with.
2. The student will create a train with unifix cubes of two colors that will total the target number. (Ex: the number is 5. The student will make a train with 1 blue and 4 red)
3. Continue to make trains of the total number in different combinations. (ex: the student will make a train of 2 blue and 3 red, 3 blue and 2 red, etc.)
4. Record the trains on the unifix recording sheet using crayons to color in the cubes.
5. Students can record a number model under each train on their recording sheet to match the train. (ex. 3 blue and 2 red will be 3 + 2 = 5) If the teacher chooses to work more on mental math this option can be skipped.
6. Follow-up game: Students will play this game with a partner. Use the target number of cubes (only one color needed). Player 1 will hide a select number of the cubes in a cup. Show the remaining number of cubes to Player 2. Player 2 will determine the number of cubes hidden in the cup. Players will take turns. Play until the players can get quick enough to answer quickly to show they have the combinations fluently.
7. As students become fluent with the target number, the teacher can move them on to the next number. Those that struggle can continue on that number with different colors daily until they become fluent.

What questions you will ask as students are engaged in the activity to surface the mathematics?

* If you have four blue, how many more do you need to make \_\_\_ ? How did you decide that?
* How do you know if you found all the possible combinations?
* What patterns do you notice as you make all of your trains?
* Can you make a number sentence to match your train?
* How could you make a subtraction problem using your train?
* Use cubes to play the missing cubes game with individual students. Hide some behind your back. If I have 5 cubes, how many am I hiding? How do you know?